ARTICULATE PRO

Artificial Intelligence For Cellular Pathology Transformation In Prostate Practice

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What's OUR AI Superpower?

Our engagement with Patients and the Public and the added benefits for our study
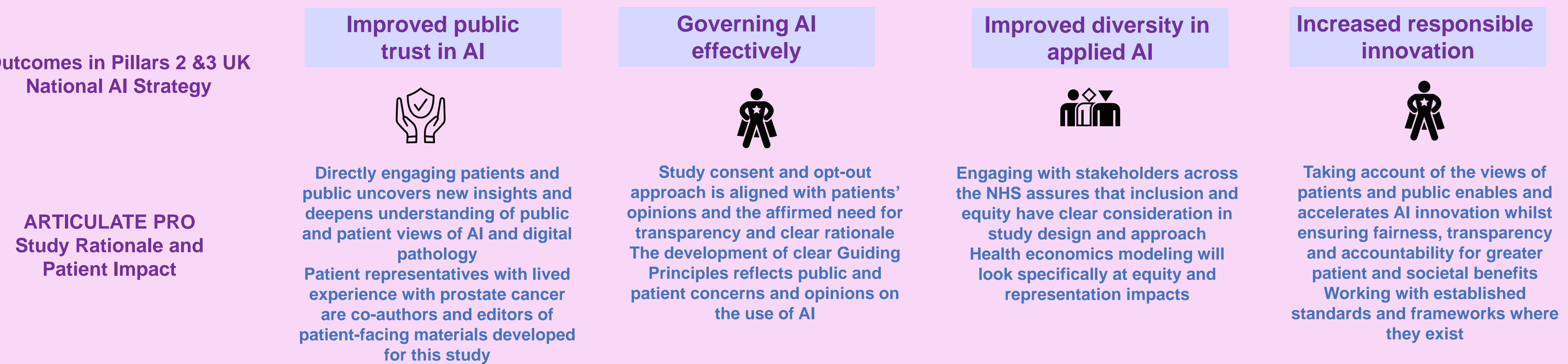
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BACKGROUND

The UK's National AI Strategy states that its aims *"...will be best achieved through broad public trust and support and by the involvement of the diverse talents and views of society"*.

The ARTICULATE PRO STUDY investigates the deployment of AI (computer assisted technology) in the prostate cancer pathway by using Paige Prostate software in the live workflow to assist pathologists when reading prostate biopsies. In the Articulate Pro study, we have designed and implemented a PPIE (Patients and Public Involvement and Engagement) strategy which harnesses the important opinions of this sector. We have listened hard to these voices and used their wisdom to help us set the directions of the study for the benefit of all. We have three patient reps on the study who make significant contributions to the work we are undertaking. Patients are co-applicants of the grant, part of the study Project Management Board and attend all study steering meetings.

> **"The reason I wanted to be involved in this project as a former patient with carcinoma of the prostate is my hope that it will ultimately improve outcomes for patients"**
>
> **Dr Richard Scheffer - Patient Representative on the Articulate Pro Study**

	Improved public trust in AI	Governing AI effectively	Improved diversity in applied AI	Increased responsible innovation
Outcomes in Pillars 2 &3 UK National AI Strategy				
ARTICULATE PRO Study Rationale and Patient Impact	Directly engaging patients and public uncovers new insights and deepens understanding of public and patient views of AI and digital pathology. Patient representatives with lived experience with prostate cancer are co-authors and editors of patient-facing materials developed for this study	Study consent and opt-out approach is aligned with patients' opinions and the affirmed need for transparency and clear rationale. The development of clear Guiding Principles reflects public and patient concerns and opinions on the use of AI	Engaging with stakeholders across the NHS assures that inclusion and equity have clear consideration in study design and approach. Health economics modeling will look specifically at equity and representation impacts	Taking account of the views of patients and public enables and accelerates AI innovation whilst ensuring fairness, transparency and accountability for greater patient and societal benefits. Working with established standards and frameworks where they exist

Improved public trust in AI

Seeking Patient and Public Views on AI and Digital Pathology

➢ Two PPI events July and November 2020

➢ Sought public opinion of our study proposal

➢ Participants were drawn from the community /PCUK supporters (men who have had a prostate biopsy)

➢ *Patient views informed the conception of the successful study grant application and study design*
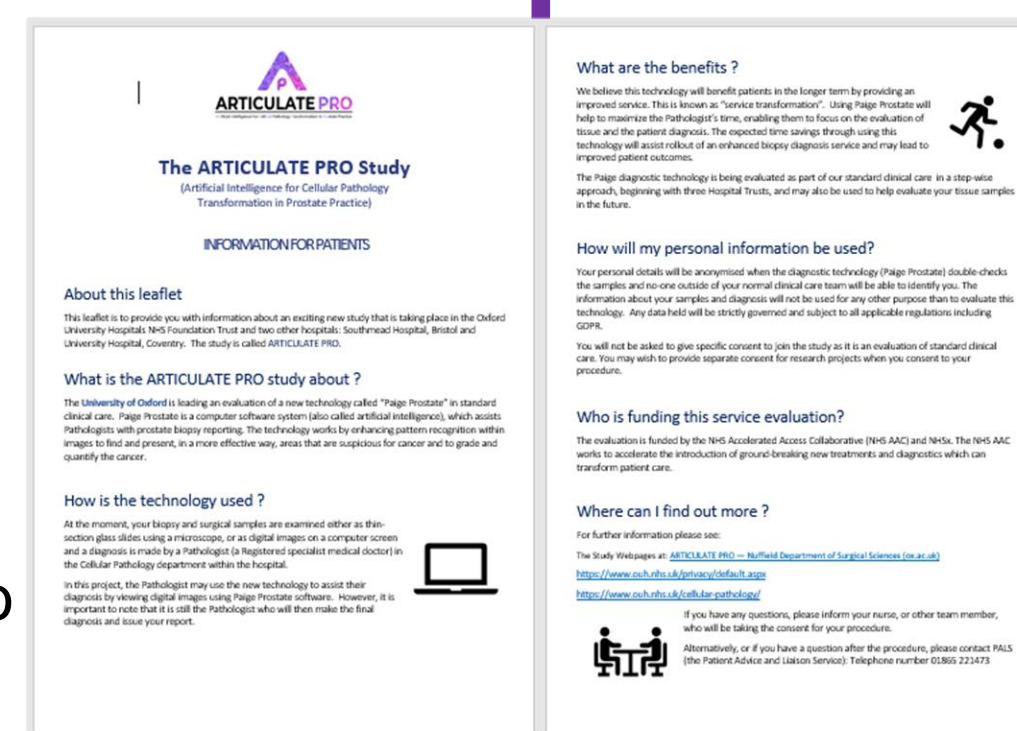
Improving Patient Facing Material

Using information gathered from all our patient facing activities we have produced an information leaflet for patients which will go into prostate clinics in the Oxford University Hospitals NHS Foundation Trust.

Patient reps reviewed and commented on the content of the leaflet and their suggested changes were incorporated into the final version

Working with Prostate Cancer UK Supporters

Prostate Cancer UK supporters were invited to complete an online survey exploring views on the use of DP and AI in histopathological assessment.

- 1276 responses (response rate 12.5%).
- Most respondents were supportive of DP (87%, 1113/1276)
- Most respondents were supportive of testing AI in clinical practice as a diagnostic adjunct (83%, 1058/1276).
- Respondents saw DP as potentially increasing workflow efficiency, facilitating research, education/training and fostering clinical discussions between clinician and patient.
- A small minority (1%) are not in favour of the testing of the use of AI in histopathology for reasons which are not easily addressed.

> Diagnostics (Basel). 2022 May 13;12(5):1225. doi: 10.3390/diagnostics12051225.

The Use of Digital Pathology and Artificial Intelligence in Histopathological Diagnostic Assessment of Prostate Cancer: A Survey of Prostate Cancer UK Supporters

Kai Rakovic [1,2], Richard Colling [3,4], Lisa Browning [3,5], Monica Dolton [4], Margaret R Horton [6], Andrew Protheroe [7,8], Alastair D Lamb [4,9], Richard J Bryant [4], Richard Scheffer [4], † James Crofts [4], Ewart Stanislaus [4], Clare Verrill [3,4,5]

Affiliations + expand
PMID: 35626380 PMCID: PMC9141178 DOI: 10.3390/diagnostics12051225
Free PMC article

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Governing AI effectively

Study Specific Consent and Opt Out of the Study

In depth discussions with patient reps on the study led to the development of clear governance guidelines on the need for study specific patient consent or otherwise within the project. *The information and opinions they provided helped to formulate the design of a standard slide set on Governance which produced a clear rationale.*

Using patient and public views to develop study specific Guiding Principles

1) Patient data is subject to all applicable laws and regulations including GDPR and data use is minimised as far as possible

2) Paige Prostate is used only for analysis – the AI system is not changed nor modified using the patient tissue images in any way.

3) Pathologists determine and authorise the diagnosis and can agree or disagree with the findings of Paige Prostate. Paige Prostate is not a replacement of the pathologist but rather provides additional information to help pathologists

Improved diversity in applied AI

Engaging with Public: Diversity in Research Group (Oxford BRC): 2-way interaction
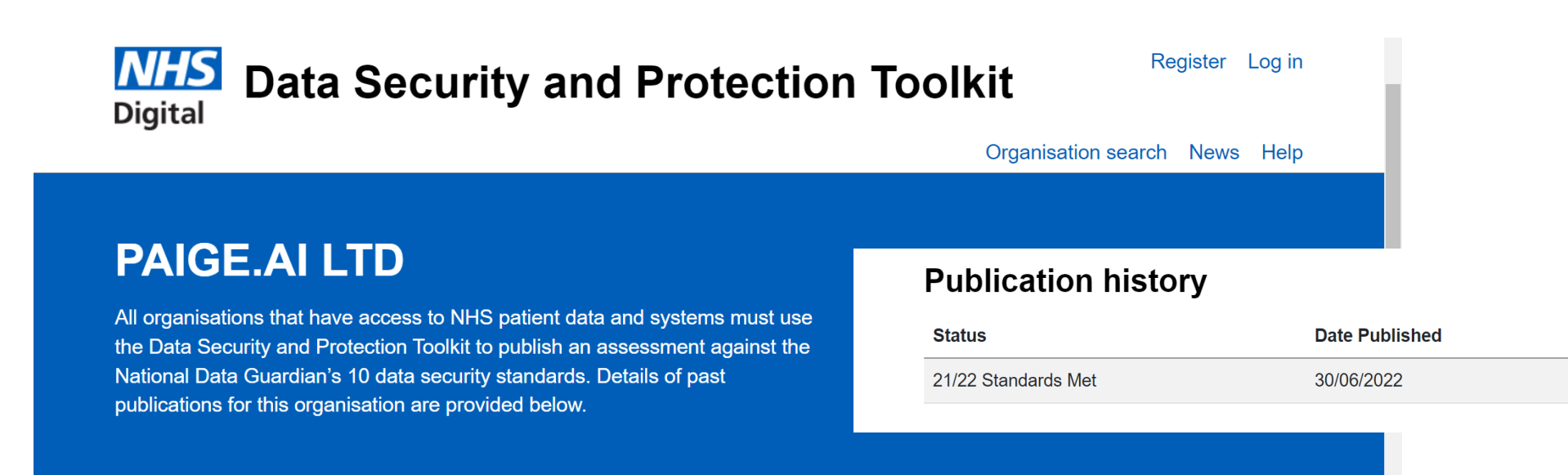
- Members of the public / patients or other service users
- From: minority ethnic communities / younger adults / people from the lesbian, gay, bisexual and transgender (LGBT+) community / carers of people with learning disabilities.

Present study information — Critique slides
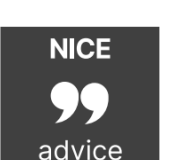Give feedback on impact of group — Workshop training on PPIE

Engaging with stakeholders

- We have conducted an Equality & Health Inequality Impact Assessment
- Had discussions with a Patient and Public Involvement Manager - Innovation, Research and Life Sciences Group, NHS England
- Identified inclusion health groups: geographic variation identified across Bristol, Oxford and Coventry / treatment variance identified across England (evidenced through the National Cancer Prostate Audit) / Some areas of equality and population targeting have been identified as - Black and Asian Men and Gender Reassignment.
- Are working with AHSN's in West of England and Oxford

Increased responsible innovation

NHS Digital — Data Security and Protection Toolkit

PAIGE.AI LTD

All organisations that have and access to NHS patient data and systems must use the Data Security and Protection Toolkit to publish an assessment against the National Data Guardian's 10 data security standards. Details of past publications for this organisation are provided below.

Publication history

Status	Date Published
21/22 Standards Met	30/06/2022

NICE National Institute for Health and Care Excellence

Paige Prostate for prostate cancer

Medtech innovation briefing
Published: 30 November 2021
www.nice.org.uk/guidance/mib280

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